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Electricity Settlement Reform Significant Code Review

Design Advisory Board 14 November 2017

Anna Stacey
Head of Settlement Reform

George Huang
Senior Policy Manager

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- Welcome & member introductions
- Session 1 – overview of settlement reform, administrative matters, setting the context and TOM objectives and design principles
- Session 2 – overview of HHS policy issues and evidence gathering
- Session 3 – overview of DWG and TOM design work to date

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Member introductions

- Senior Responsible Owner – Cathryn Scott
- Design Advisory Board composition
  - Sara Bell (Tempus Energy)
  - David Crossman (Cornwall Energy)
  - Mitch Donnelly (British Gas)
  - Lowri Gilbert, BEIS smart energy team (BEIS)
  - Stew Horne (Citizens Advice)
  - Chris King (Siemens)
  - Graham Oakes (Upside Energy)
  - Professor Catherine Mitchell (Exeter University)
  - Judith Ward (Sustainability First)
  - Chris Allanson (ENA)
- Chaired by Anna Stacey (Ofgem). Justin Andrews (ELEXON), who chairs the Design Working Group will also attend all DAB meetings
- George Huang (Ofgem) is the DAB secretariat

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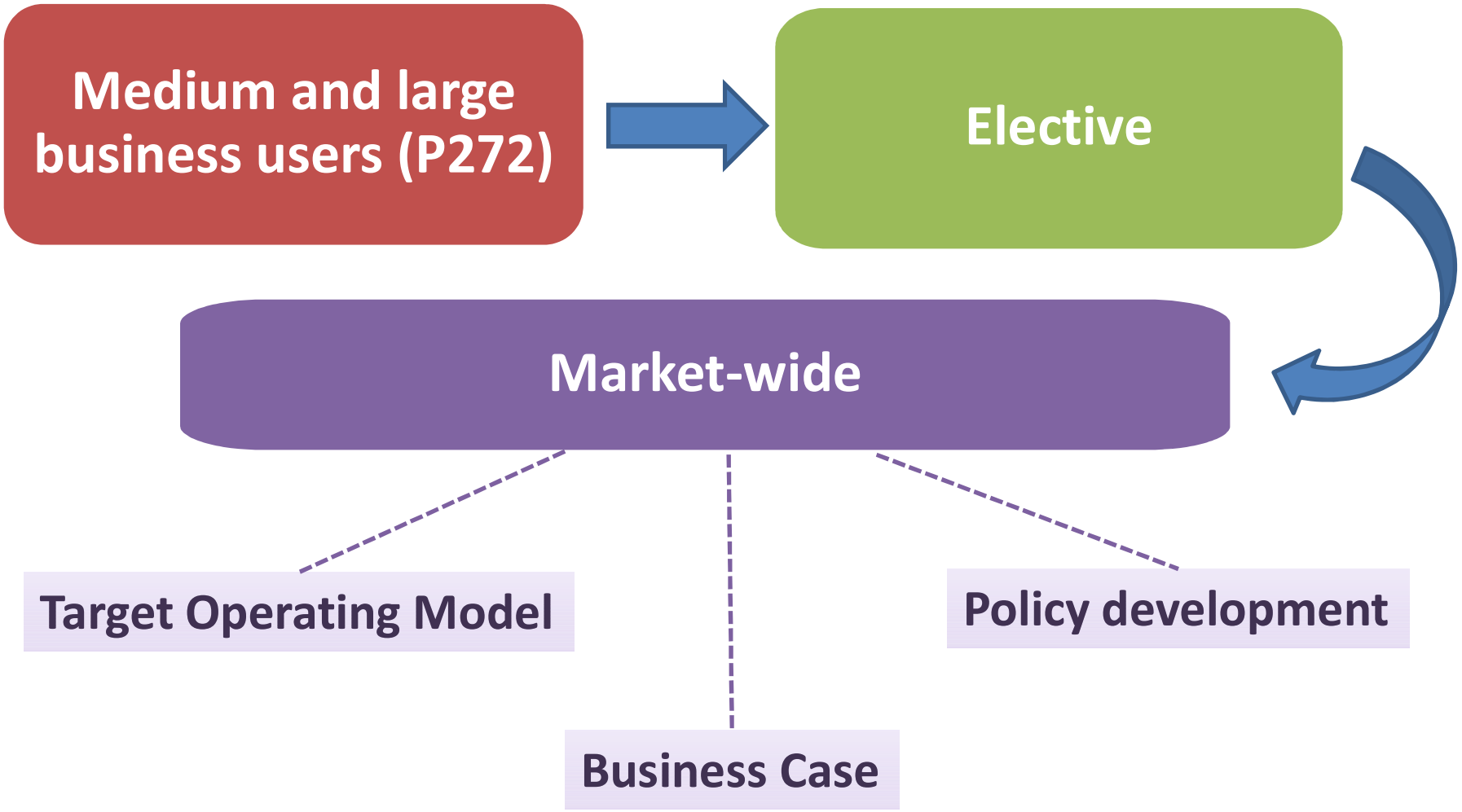
Settlement Reform Overview



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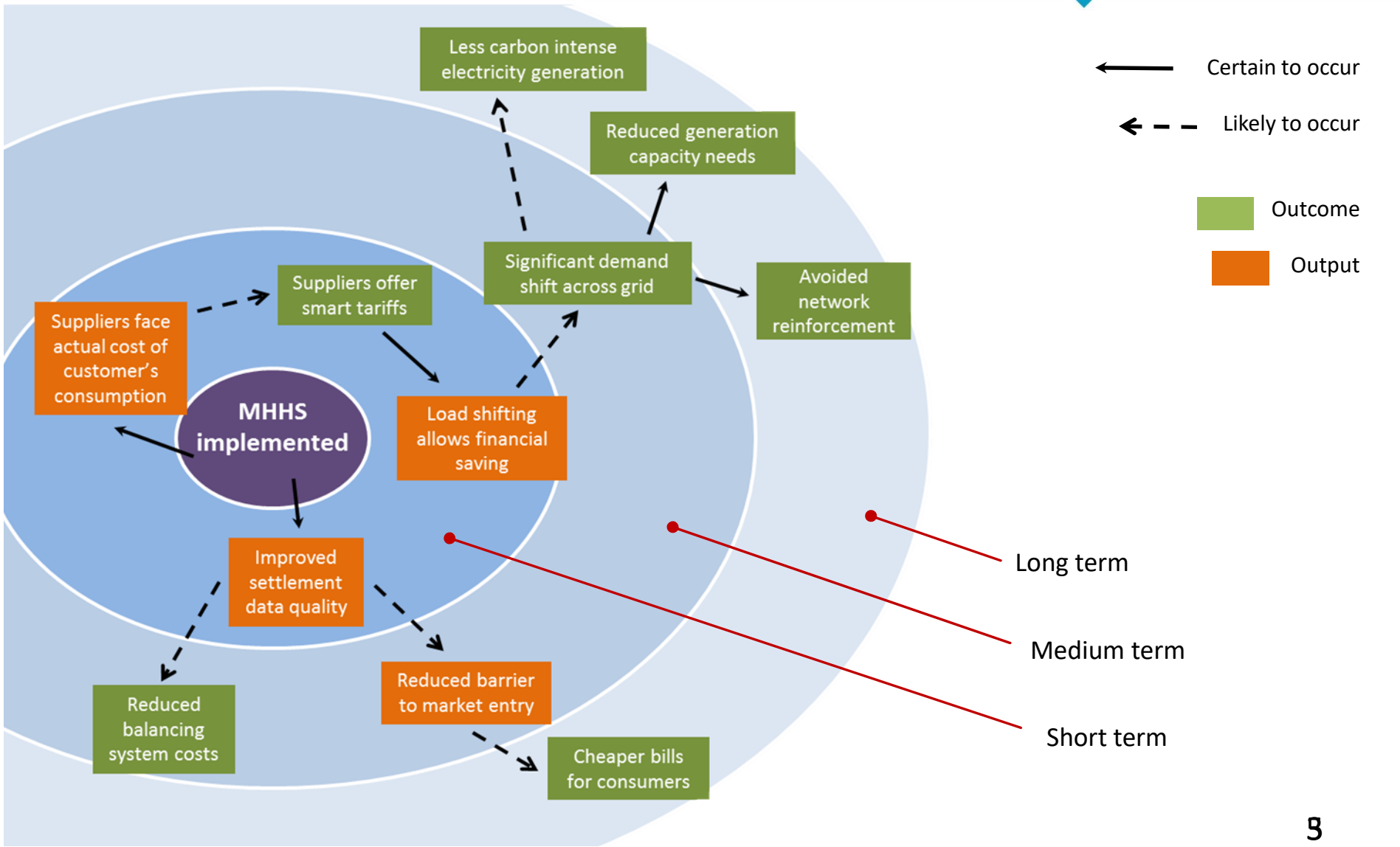
Realising the benefits of HHS



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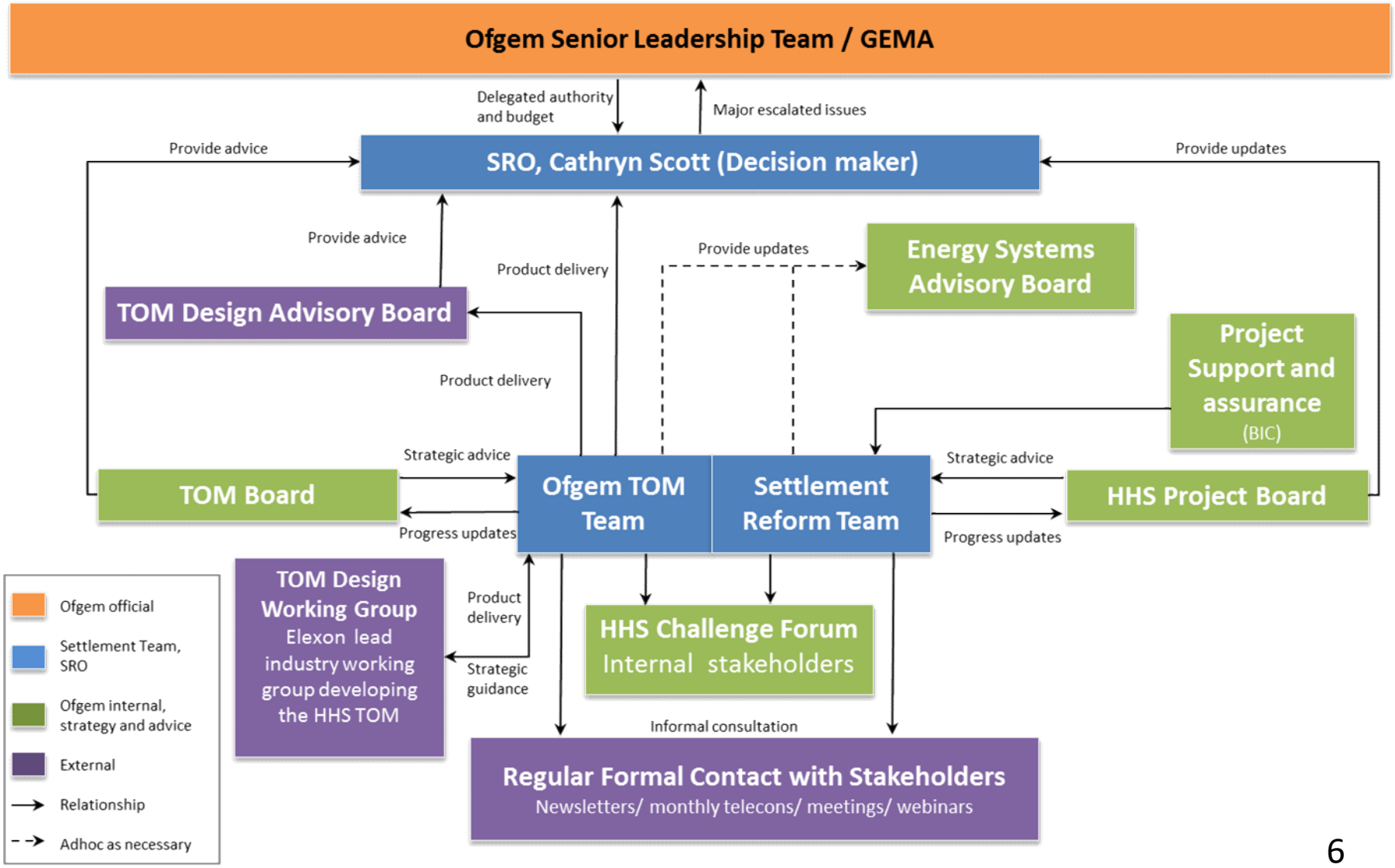
Project Governance



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Role of the Design Advisory Board

- The role of the Design Advisory Board is to provide:
  - strategic advice to Cathryn Scott, the Ofgem SRO, on TOM options developed by the Design Working Group
  - strategic input at key stages into the TOM Design Work to the Design Working Group via the Design Working Group Chair and the Ofgem TOM team
- The role of the Design Advisory Board is primarily strategic, not technical assurance. We are looking for the Design Advisory Board to provide input during the TOM design work to ensure that the final TOM achieves the project objectives
- Needs to provide a challenge to the thinking of the Design Working Group
- We need the Design Advisory Board help make the TOM be forward-looking:
  - promote innovation and competition
  - facilitate a smart, flexible energy system
  - reduce the barriers to entry into the energy market for new entrants

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Responsibilities of members

- The Terms of Reference set out the responsibilities and expectations of Design Advisory Board members and Ofgem
- See in particular section 7 which outlines the rules of participation
- Key things to note:
  - members should make reasonable efforts to attend meetings and constructively contribute
  - views expressed by members treated as expert opinion, not representative of organisations they are employed/affiliated with
  - DAB will not meet often but members are expected to read materials and be ready to contribute

Administrative issues

- Design Advisory Board Terms of Reference
  - SCR feedback largely supported the proposed governance arrangements, including Terms of Reference
  - We propose to finalise Design Advisory Board Terms of Reference, subject to comments from members

Administrative issues

- Alternates
  - Alternate members need to be identified to attend meetings when members are not able
  - We propose to put together a list of alternate members based:
    - Stakeholders who expressed an interest in the Design Advisory Board but were not appointed
    - Member nominations
  - Please could members provide nominations for alternates by Friday 1 December 2017

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Administrative issues

This is the current meeting plan for the DAB and DWG. The next DAB meeting will be in January following the delivery of the skeleton TOMs to Ofgem.

Design Advisory Board	Design Working Group
14 November 2017	15 November 2017
	13 December 2017
January 2018 – provide feedback on draft skeleton TOMs	10 January 2018 – finalise draft skeleton TOMs
	14 February 2018 (TBC)
Potential March 2018	14 March 2018 (TBC)
	25 April 2018 – agree on consultation for skeleton TOMs
May 2018	May 2018 – review consultation responses and define lower level detail

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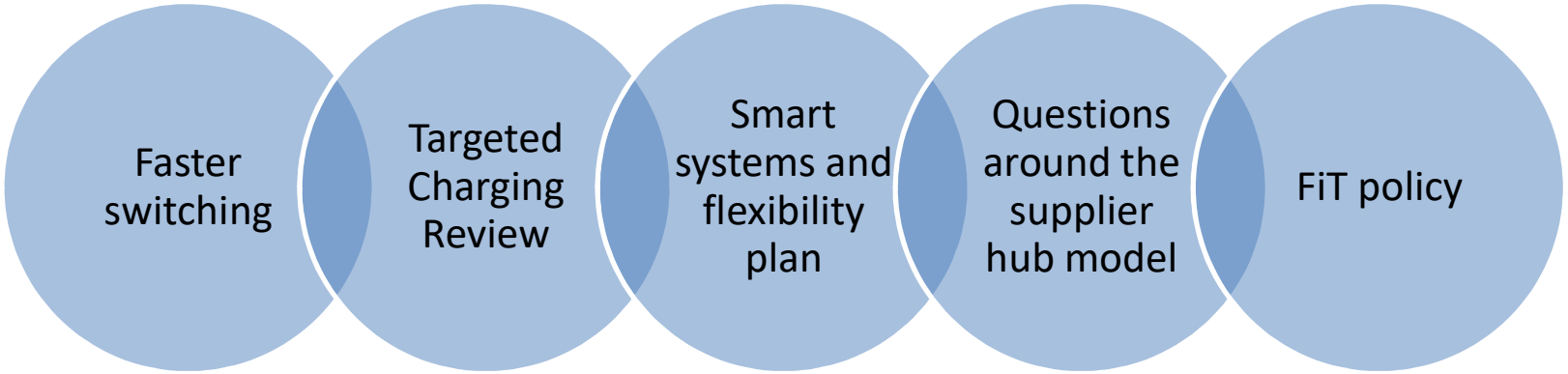
Wider context of change



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Project Objectives

No.	Project Objective	Measures
RELEVANT WIDER OFGEM OBJECTIVES		
1	To promote an electricity system that delivers the Government and Ofgem's objectives in a cost-effective manner, minimising the overall cost to current and future consumers of moving to a low-carbon electricity system while maintaining security of supply and system efficiency by:	
A	Minimising the need for infrastructure investment	Lower 'peak' demand (either national or local) in comparison to what would otherwise be the case
B	Facilitating more efficient use of generation assets and network assets	Increase in use of low-carbon assets measured against predicted baseline
OBJECTIVE SPECIFIC TO SETTLEMENT ARRANGEMENTS		
2	To develop settlement arrangements that incentivise all retailers and suppliers (current and future) to encourage customer behaviour (electricity demand) that contributes to a more cost-effective electricity system by:	
A	Linking future retailers' costs to their customers' actual consumption within the course of a day.	The proportion of customers settled in a manner that specifically links retailers' settled costs to customers' consumption
B	Encouraging new and disruptive business models (from current retailers or new entrants) through settlement arrangements that facilitate competition in new areas.	Evidence of new/changing retail offerings or business models that can be specifically identified as being dependent on settlement costs that vary with customers' consumption
3	To minimise undesirable distributional effects on consumers	

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Options framework

Choices – what implementation options are available?		Extent of difference from status quo →			
Service Scope (WHAT?) – Coverage	1. Who will be covered	Small subset of consumers (eg based on technology/ consumption/DNO region)	A larger subset of consumers	All consumers	
	2. Metering	Just SMETS2 smart meters	All SMETS smart meters (1&2)	All advanced and smart meters	
	3. Policy approach	Settlement incentives on suppliers delivered through encouraging 'chunking'	More promotion of elective (voluntary + incentives)	Market-wide	
	4. Granularity of settlement period	Half-hourly	Flexible to reasonable future systems		
Service Solution (HOW?)	5. Approach to data access[3]	Access to data subject to existing data access rules (i.e. consumer consent required)[4]	HH data available for settlement purposes only with an option for consumers to opt-out	HH data is available for settlement purposes only	HH data is available for settlement only, following pseudonymisation or anonymisation
	6. Approach to agent functions	Retain existing competitive supplier agent market	Retain competitive supplier agent market with reform	Central agent	
	7. Approach to policy communications	Individual suppliers lead communication	Coordinated approach (Ofgem, industry and BEIS)	Ofgem or government led	
Service Delivery (WHO?)	8. Policy approach	Ofgem			
	9. Design of Target Operating Model	Industry led by Ofgem	Industry led by Elexon		
Implementation (WHEN?)	10. Commencement	Slower commencement	Faster commencement		
	11. Phasing	Slow phase	Fast phase	Big bang	
	12. Period for systems changes	18 months	12 months	6 months	

Design Principles

- Design principles set out:
  - TOM strategic objectives developed from the HHS objectives
  - Detailed design principles setting out TOM design requirements
  - Stakeholder feedback was largely positive. In light of feedback, we think the Design Principles should be amended to be more forward looking
- Do Design Advisory Board members agree with the Design Principles?

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Innovation and supplier agent functions

Discussion with Design Advisory Board

14/11/17

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Purpose of session

- We are providing you with an overview of this policy area to **provide context for Target Operating Model (TOM) work,** on which you will be providing advice to Ofgem

- This session is also **part of our evidence gathering** – we specifically want to hear any views on the interactions with innovation
  - We are carrying out a broad range of evidence gathering – today's discussion is just one part of this

- Not necessarily looking for technical comments – particularly welcome more **strategic** comments

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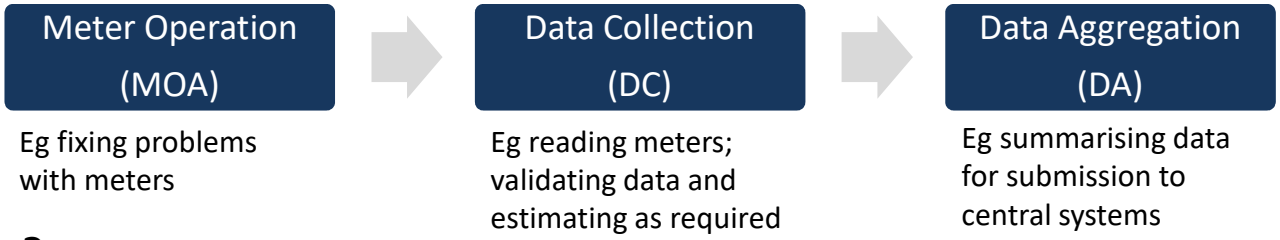
Background on supplier agents

- Under the BSC, electricity suppliers appoint supplier agents to carry out certain functions related to settlement
  - Some large business customers contract with their own agents, but the supplier retains responsibility for BSC compliance

What do they do?

- Three roles specified in the BSC:



Who are they?

- Some large suppliers have in-house supplier agents
- Also a number of supplier agents who are not part of a supplier
- DCC is not a supplier agent, but provides technology that facilitates meter reading

How are they regulated?

- Supplier agents need to qualify under the BSC
  - Process involves self-assessment and audit checks

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Overview of workstream

What?

- Question whether or not to centralise functions currently performed by supplier agents

Why?

- Long-standing question for HHS project, as market-wide HHS provides opportunity to review arrangements for collecting and processing data
- Also a recommendation from the CMA's Energy Market Investigation to consider this

Who?

- Policy decision reserved to Ofgem – considered separately to the TOM work

How?

- Want to come to an evidence-based decision about which option is in the best interests of consumers, in line with our principal objective
- Therefore currently developing evidence base – this included an initial Request for Information

When?

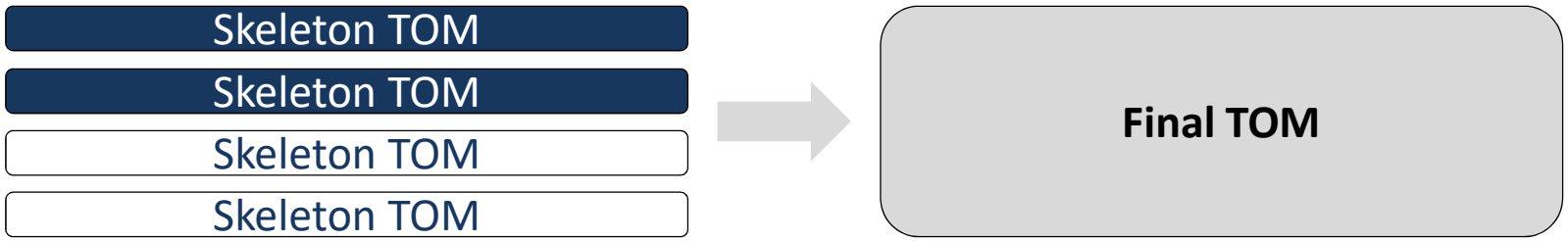
- Work is ongoing. Next major milestone is a consultation – current expectation is that this would be in March 2018

Central agent question and TOM

- There are interactions between the TOM work and our decision on whether or not to centralise
- A decision on whether or not to centralise is a key input to the TOM work

Elexon and the DWG are currently developing a variety of skeleton TOMs, including both centralised and non-centralised models. This is to avoid prejudging our decision on whether or not to centralise

But a final decision on the central agent question is needed before the TOM can be finalised



- We will also consider carefully any analysis from the TOM work about the settlement functions and processes that might be required in future
  - However, we emphasise that the decision on whether or not to centralise is reserved to Ofgem

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Innovation

- For today, particularly want to gather evidence on potential impacts on innovation

Value-added services from agent(s)	• What innovation in services would we expect from supplier agents? • Would a central agent find it more difficult to provide a range of services tailored to different suppliers/customers? • In a central model, would other parties (eg current agents) be able to provide value-added services and innovate around these?
Data for innovators	• Would one of these models help innovators get hold of the data they need? *(Always assuming customer has provided consent)* • Is getting data direct from the smart meter a realistic alternative? • What matters most to innovators about consumption data? Accuracy? Speed of access? Cost? Consistency with settlement data? • Would greater flexibility to aggregate settlement data (rather than just by supplier) help to support new models like local supply?
Speed of modifications	• Would either model affect the speed at which modifications to industry codes could be delivered in future?
Other impacts	• Potentially other impacts on innovation?

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Questions for discussion with DAB

We particularly welcome views or evidence in relation to the following questions:

1. Do you have views on which considerations linked to innovation should we bear in mind as part of this workstream?

2. Do you have any more general views on potential interactions between this policy workstream and the development of the TOM?

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Access to Data for Settlement: Presentation to Design Advisory Board

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Purpose of today's session

- Provide an overview of the access to data for settlement policy question
- Hear your thoughts as part of our evidence gathering

Data Access and Privacy Framework

The Data Access and Privacy Framework was established by DECC in 2012 and, along with the relevant data protection legislation, sets out the basis upon which suppliers can access consumer's data from smart meters and the choices consumers have in relation to this access.

Rules governing electricity supplier's access to consumption data are set out in Section 47 of the Standard Conditions of Electricity Supply Licence. Relevant clauses of particular relevance to the half-hourly settlement programme can be summarised as follows:

- Suppliers may only access a domestic consumer's half-hourly consumption data with the explicit consent of the consumer and providing they have informed the consumer of the purposes for which they may use the data (opt-in)

- Suppliers may access a microbusiness's half-hourly consumption data if they have informed the consumer of the purposes for which they may use the consumption data and they have not opted out.

- Consumers may change their preferences on sharing data from their smart meter at any time and must be informed that this is the case.

Disclaimer: nothing in these slides constitutes legal advice or should be relied on as such

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Overview of Data Protection Regulation

There are two wider pieces of data protection legislation which are relevant to parties accessing, using and storing data from smart meters:

- UK Data Protection Act 1998
- General Data Protection Regulation (GDPR) – this comes into force on 25th May 2018 and will be directly applicable.
- GDPR will put in place more stringent obligations in relation personal data processing than apply under the DPA

Compliance with this legislation is overseen by the Information Commissioner which was set up to uphold information rights

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Options under consideration

No	Option
1	Access to half-hourly data subject to existing data access rules (opt-in) (the status quo)
2	Half-hourly data is available for settlement purposes only with an option for consumers to opt-out
3	HH data is available for settlement purposes only
4	HH data is available for settlement purposes only following pseudonymisation (MPAN replaced with unique identifier)
5	HH data is available for settlement purposes only following anonymisation (MPAN removed at an early stage of the settlement process)

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Points to Note

The options considered for access to half-hourly data relate to the collection and use of this data for settlement purposes only.

Settlement purposes only **does not** include use of half-hourly data for forecasting, billing or marketing.

Our proposals will therefore not impact wider access to smart metering data as set out under the smart metering Data Access and Privacy Framework

Key Considerations for decision making

- The smart metering data access rules in GB were designed to ensure that consumers' data are protected and to give them the confidence to accept the offer of a smart meter

- Depending on the access to data option chosen, the proportion of consumers who cannot be half-hourly settled may be small or relatively large. This will have implications for the design of settlement processes and realisation of the intended benefits of HHS.

- Further consideration will need to be given as to any bespoke rules which may be necessary for consumers with a smart meter installed prior to the point at which any regulatory or code changes are made

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Things to think about

- Impact on consumer privacy and data security
- Implications for accuracy of data in settlement
- Extent to which it facilitates delivery of the benefits arising from half hourly settlement for all smart metered consumers
- Cost implications
- Legal implications

Gathering Evidence and interaction with TOM development

- Gather evidence to inform a decision on access to data for settlement.
- Undertake a Privacy Impact Assessment which will form a key part of the evidence base – we issued a small RFI on 19 October 2017
- Work closely with ELEXON to consider the implications of access to data options for the development of Target Operating Models
- We plan to:

a) consult stakeholders about access to data for settlement in Spring 2018

b) make a final decision on access to data for settlement following the outline business case

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Workshop questions

1. What are your initial reflections on the options and approach on access to data for settlement?

2. What could the risks and benefits of options under consideration be in relation to:

a) Consumers

b) Broader ambition to move towards a flexible electricity system

c) Suppliers and their agents

Things to consider: Consumer confidence in smart meters, incentives to offer smart tariff to consumers, cost and complexity of settlement processes,

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Protecting consumers

Ofgem is considering the potential impacts on consumers of market-wide HHS and whether any additional protections will be needed as a result. This will include specific consideration of small non-domestic consumers.

Accessing advice on switching to a time of use tariff

As part of our work to consider any barriers to the benefits of HHS being realised, Ofgem is considering how consumers will easily access accurate advice to help them decide whether to switch to a time of use tariff.

Monitoring the development of HHS and Time of Use tariffs

We will monitor the market closely, including supplier uptake of elective HHS and any impacts on consumers which emerge as a result.

Vulnerable Consumers

There may be distributional effects arising from how smart tariffs affect different types of consumer, based on consumers' circumstances, lifestyle and their ability to shift their usage at peak times. Ofgem will consider whether any additional protections will be needed as a result of moves towards half-hourly settlement.

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Ofgem is the Office of Gas and Electricity Markets.

Our priority is to protect and to make a positive difference for all energy consumers. We work to promote value for money, security of supply and sustainability for present and future generations. We do this through the supervision and development of markets, regulation and the delivery of government schemes.

We work effectively with, but independently of, government, the energy industry and other stakeholders. We do so within a legal framework determined by the UK government and the European Union.

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DAB Restricted

DAB: Design Working Group update

Overview of TOM design work

14 November 2017

Justin Andrews

ELEXON

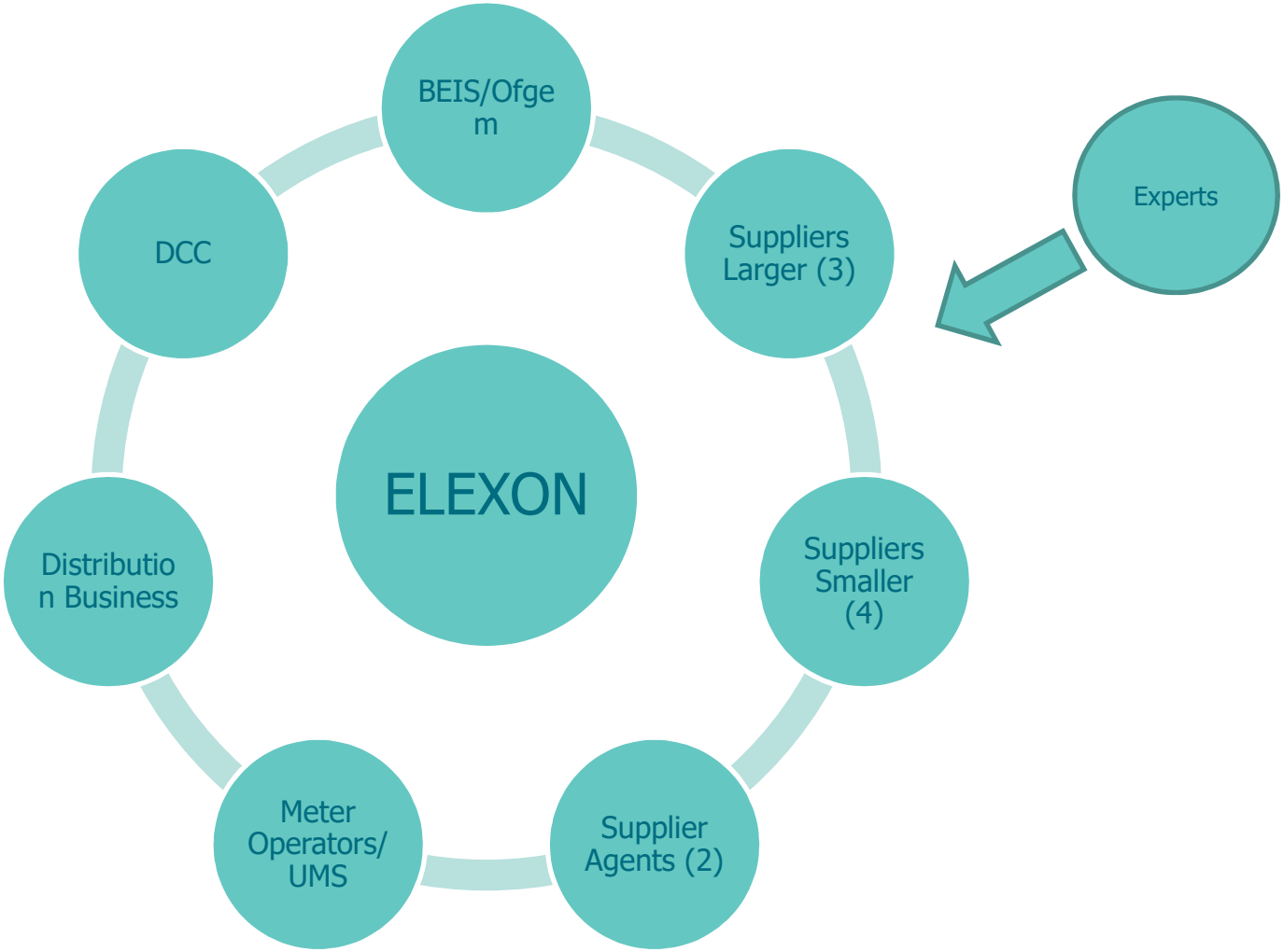
Content

- Intro to DWG
- Deliverables and timeline of their work and interaction with DAB
- 1st DWG meeting summary
- DWG working documentation
  - Roles and responsibilities
  - Evaluation criteria
- Views on key assumptions and dependencies
  - Wider interactions and developments
- Use cases summary
- Draft TOMs
- Next steps

DWG and its work

ELEXON

DWG (1)


BEIS/Ofgem
Suppliers Larger (3)
Experts
DCC
ELEXON
Distribution Business
Suppliers Smaller (4)
Meter Operators/ UMS
Supplier Agents (2)

DWG membership (2)

- Tom Chevalier – Association of Meter Operators (supplier agent)
- Seth Chapman – Morrison Data Services (supplier agent)
- Eric Graham – TMA (supplier agent)
- James Evans – Hudson Energy (smaller supplier)
- Chris Welby – Bristol Energy (smaller supplier)
- Emily Bridges – OVO Energy (smaller supplier)
- Adam Boorman – Cornwall Energy (consultant with small supplier focus)
- Alex Leyland – British Gas (larger supplier)
- Paul Saker – EDF Energy (larger supplier)
- Andrew Colley – SSE (larger supplier)
- Ian Marshall- DCC (smart data infrastructure)
- John Christopher – BEIS (government)
- Tracey Pitcher/Simon Yeo – Western Power Distribution (DNO)

Timeline and Deliverables

Draft skeleton TOMs	**Provide draft skeleton TOMs to Ofgem to assist Ofgem policy work streams**	**January 2018**
Skeleton TOMs	**Final Report to Ofgem on the findings of Work Stage 1.**	**March 2018**
Consultation on Skeleton TOMs	**Industry Consultation Document detailing the proposed TOMs.**	**May 2018**
Impact Assessment for BSC systems	**Internal IA document on proposed changes required to support viable TOMs.**	**August 2018**
Consultation on Transitional Approach	**Industry Consultation Document on options for transitioning to new arrangements.**	**October 2018**
Final report for Workgroup Stage 2	**Final Report to Ofgem on the findings of Work Stage 2.**	**March 2019**

DWG 1st meeting

11 October 2017

DWG 1st meeting (11 October)

- SCR Context
- Interaction with policy and business case
- Terms of Reference
- Data privacy introduction
- Basis of development
  - Roles and responsibilities
  - Evaluation criteria
  - Strawman TOMs
- Lessons for DWG and ELEXON
  - Assumptions key
  - Take through on the journey
  - Use Case approach

DWG TOM development

Working docs

ELEXON

DWG TOM Development Documentation

Deliverable	Description
Settlement Roles & Responsibilities	Sets out key roles and responsibilities in Settlement mapped to key processes
Detailed Timetable	Gantt chart covering DWG meetings, milestones and activities
Draft Strawman TOMs	Draft TOMs and their descriptions; key features, Pros/Cons
RAID Log	Risks, Assumptions, Issues and Dependencies (RAID) log
High Level Options for System Architecture	Describes system architecture for each strawman TOM with a focus on central systems
Design principles and evaluation criteria	Expansion of Ofgem draft design principles and evaluation criteria

Assumptions and Dependencies

DAB views

ELEXON

Key assumptions and dependencies: DAB expert input (1)

HHS is an enabler for innovation to provide consumer benefits

- Assumptions
  - Smart rollout and HH meter data availability
  - Future of customer 'contract' with energy organisation(s)
    - Innovator
    - Aggregator
    - DSR service
    - Storage provider
    - EV provider
    - Generator
    - Supplier/ Multiple Suppliers
    - DSO/SO
    - Others?

Key assumptions and dependencies: DAB expert input (2)

HHS is an enabler for innovation to provide consumer benefits

- Needs of the consumer
- Key interactions/risks
  - Technology offerings
  - Other market developments
    - SCRs: Faster switching, Targeted Charging Review
    - DSO, SO/TO split, FPSA, Flexible and smart Energy Systems……
    - Europe
- What might impact/jeopardise the HHS design work?

Use cases

Overview

ELEXON

Meter/Data key strands and Use Cases

- Model processes for five market segments:
  1. Smart Meter, Settlement Period data
  2. Smart Meter, Register Reading data
  3. No Smart Meter, Register Reading data
  4. Advanced Meter, Settlement Period data
  5. Unmetered Supplies
- Mapped E2E from registration to final settlement
- Use Cases compared to determine common functionality
- Focus on key activities to determine:
  - Where opportunities exist for defined roles in the Settlement process
  - How each TOM supports each of these market segments
  - How the market will evolve with rollout of Smart and Advanced meters
  - Potential gaps in processes

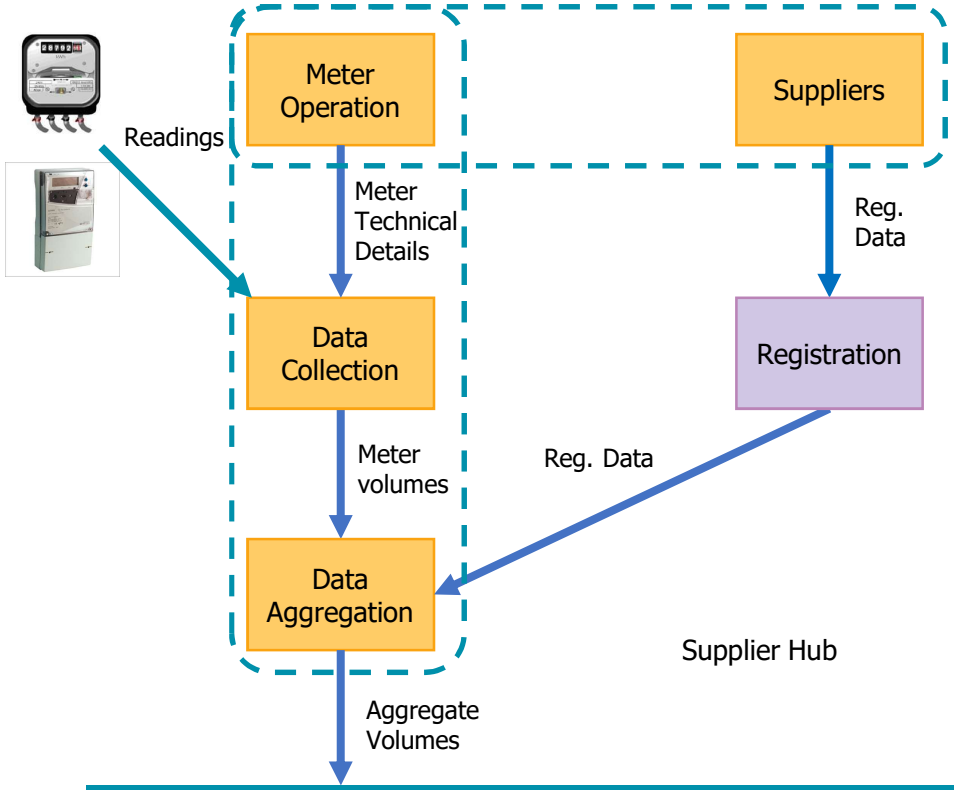
Use Cases and Four meter segments

Activity	Elective Smart HH	Smart NHH	Non-Smart NHH	Advanced HH
Metering Activities				
Meter Installation/Maintenance	NHHMOA	NHHMOA	NHHMOA	HHMOA
Remote Meter Configuration	Supplier	Supplier	N/A	HHMOA
On-Site Meter Configuration	N/A	N/A	NHHMOA	HHMOA
Meter Fault Investigation	NHHMOA	NHHMOA	NHHMOA	HHMOA
Data Retrieval Activities				
Retrieval of HH Period Data	Supplier (DCC)	N/A	N/A	HHDC
Retrieval of Register Readings	N/A	Supplier	NHHDC	N/A
Data Processing Activities				
Validation of Data	Supplier, HHDC	Supplier, NHHDC	NHHDC	HHDC
Exception Reporting	HHDC	NHHDC	NHHDC	HHDC
Exception Handling	Supplier, HHDC	Supplier, NHHDC	Supplier, NHHDC	Supplier, HHDC
Estimation and Substitution	HHDC	NHHDC	NHHDC	HHDC
Aggregation Activities				
Settlement Exception Reporting	HHDA	NHHDA	NHHDA	HHDA
Aggregation of data for Settlement	HHDA, SVAA	NHHDA, SVAA	NHHDA, SVAA	HHDA, SVAA
Application of LLFs	HHDA, SVAA	NHHDA, SVAA	NHHDA, SVAA	HHDA, SVAA

TOM Strawmen Options

DAB Initial views

Current SVA



- Key considerations:
  - Supplier Hub principle
  - BSC governance
  - Distributed settlement processing
  - Focus of Half hourly settlement

Smart Meter and Faster Switching

Readings

Meter Operation

Meter Technical Details

Readings

Suppliers

Reg. Data

Reg. Data

Readings

DCC

Readings

Data Collection

Central Switching Service

Reg. Data

Registration

Reg. Data

Meter volumes

Reg. Data

Data Aggregation

Aggregate Volumes

- New functions
  - DCC (data retrieval)
  - CSS (registration)
- New players/ flows (shown in green)
- Both gas and electricity

BSC CENTRAL SYSTEMS

Allocate meter volumes, contracts, balancing actions → Calculate imbalance price and volumes → Calculate bills and payments

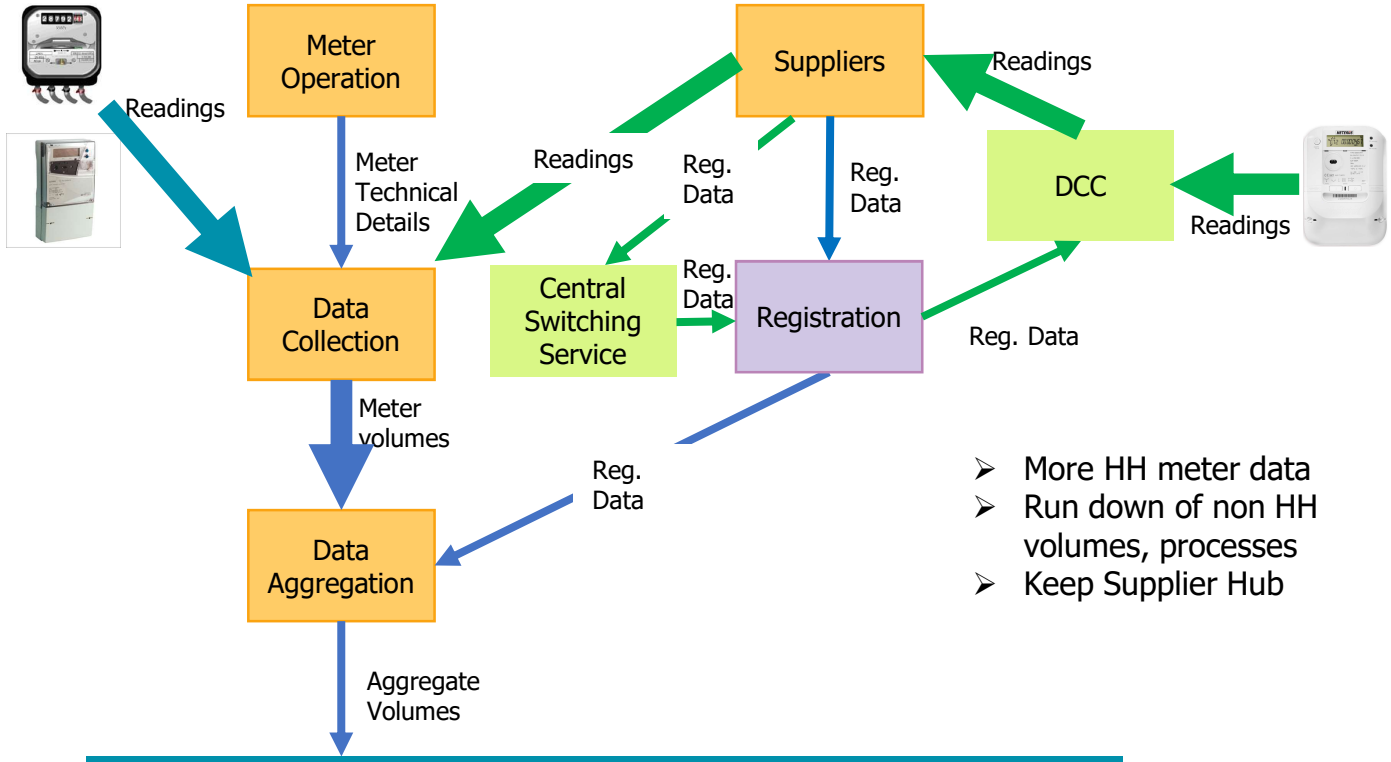
Reports, Bills

BSC Parties

New Roles

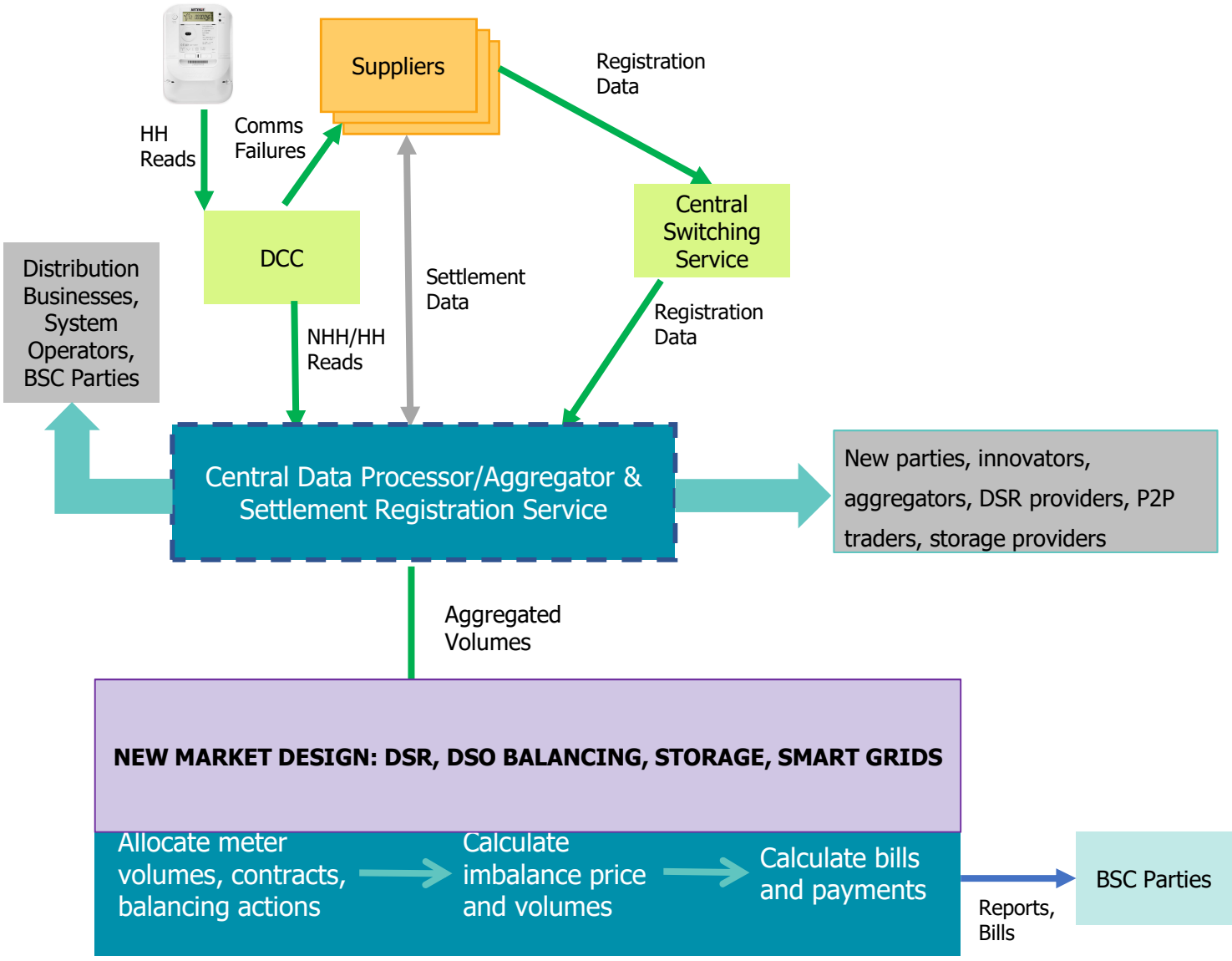
ELEXON

Increased Half Hourly

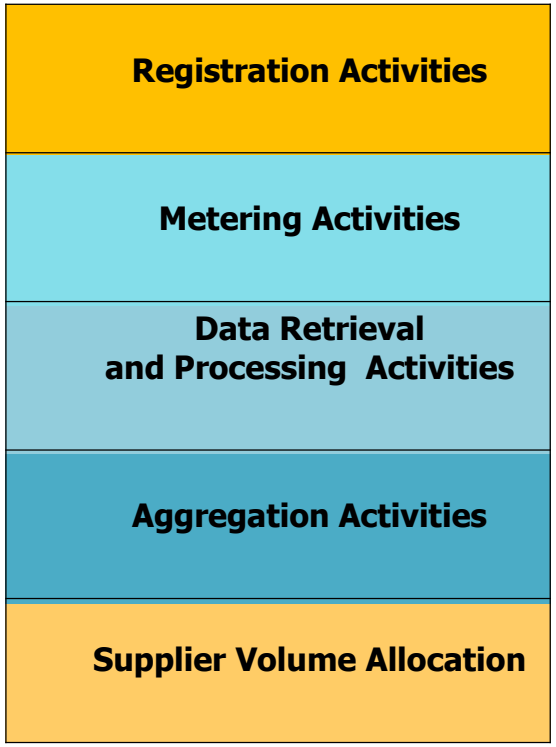


- More HH meter data
- Run down of non HH volumes, processes
- Keep Supplier Hub

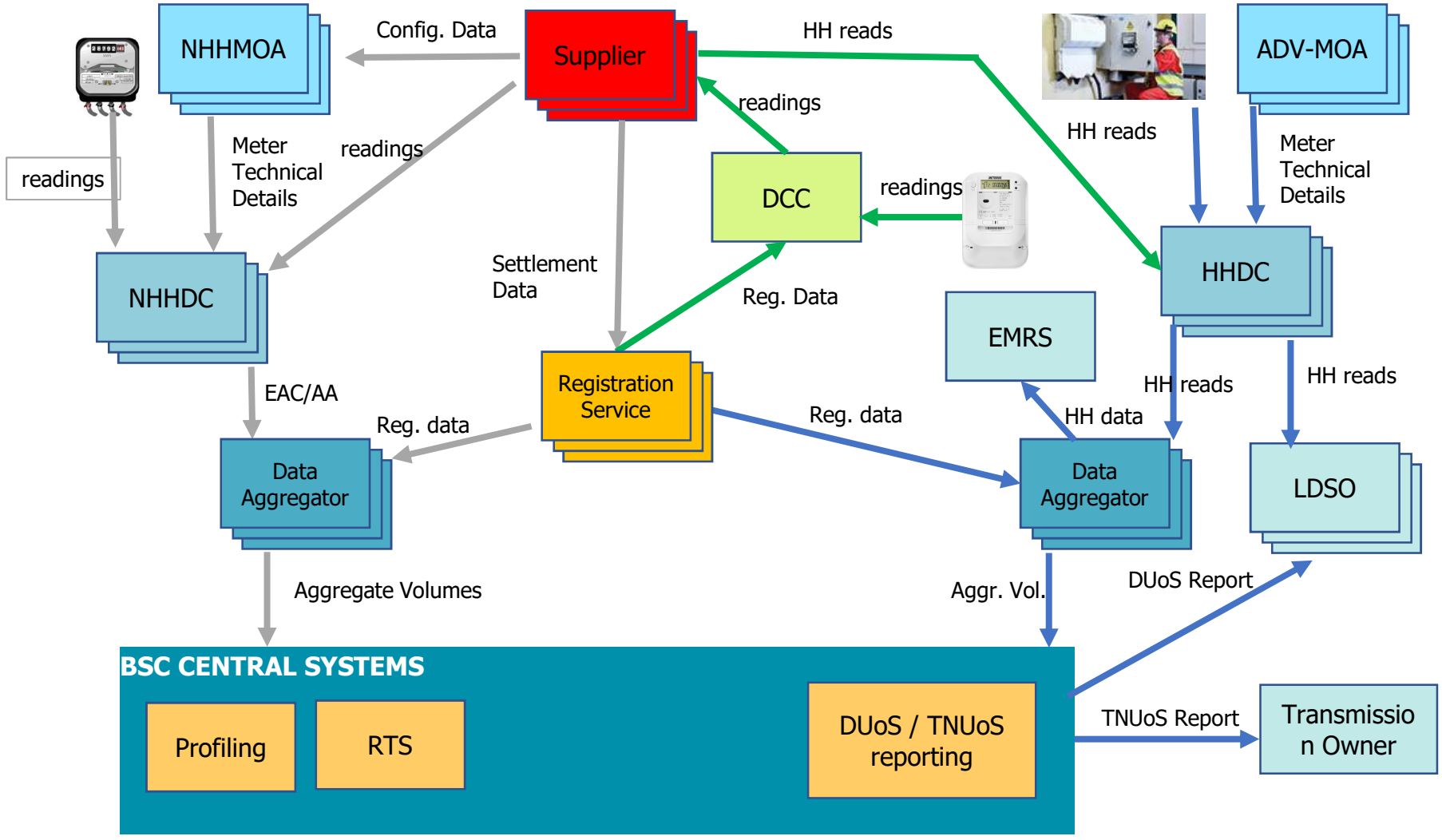
Centralised model



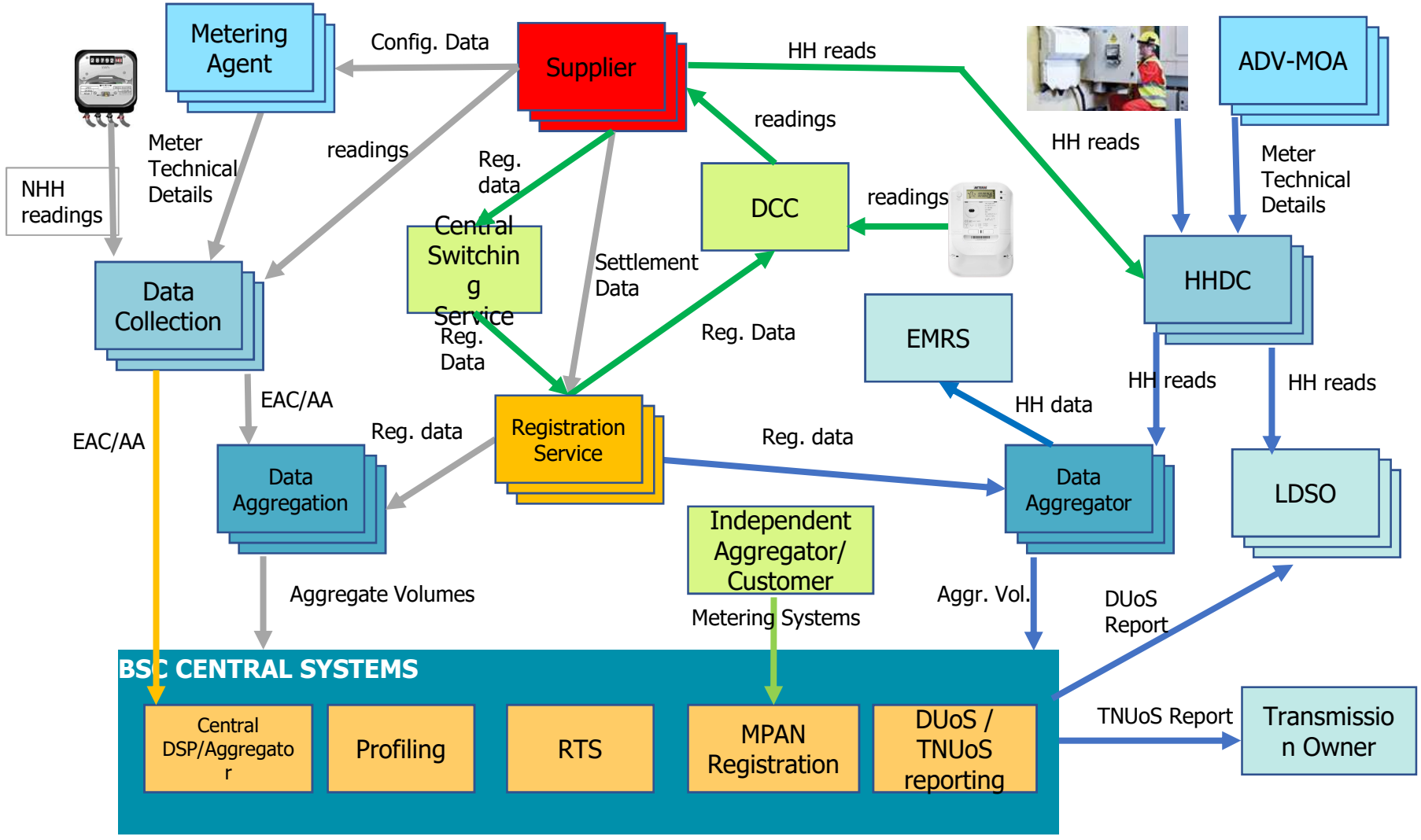
Key


Registration Activities
Metering Activities
Data Retrieval
and Processing Activities
Aggregation Activities
Supplier Volume Allocation

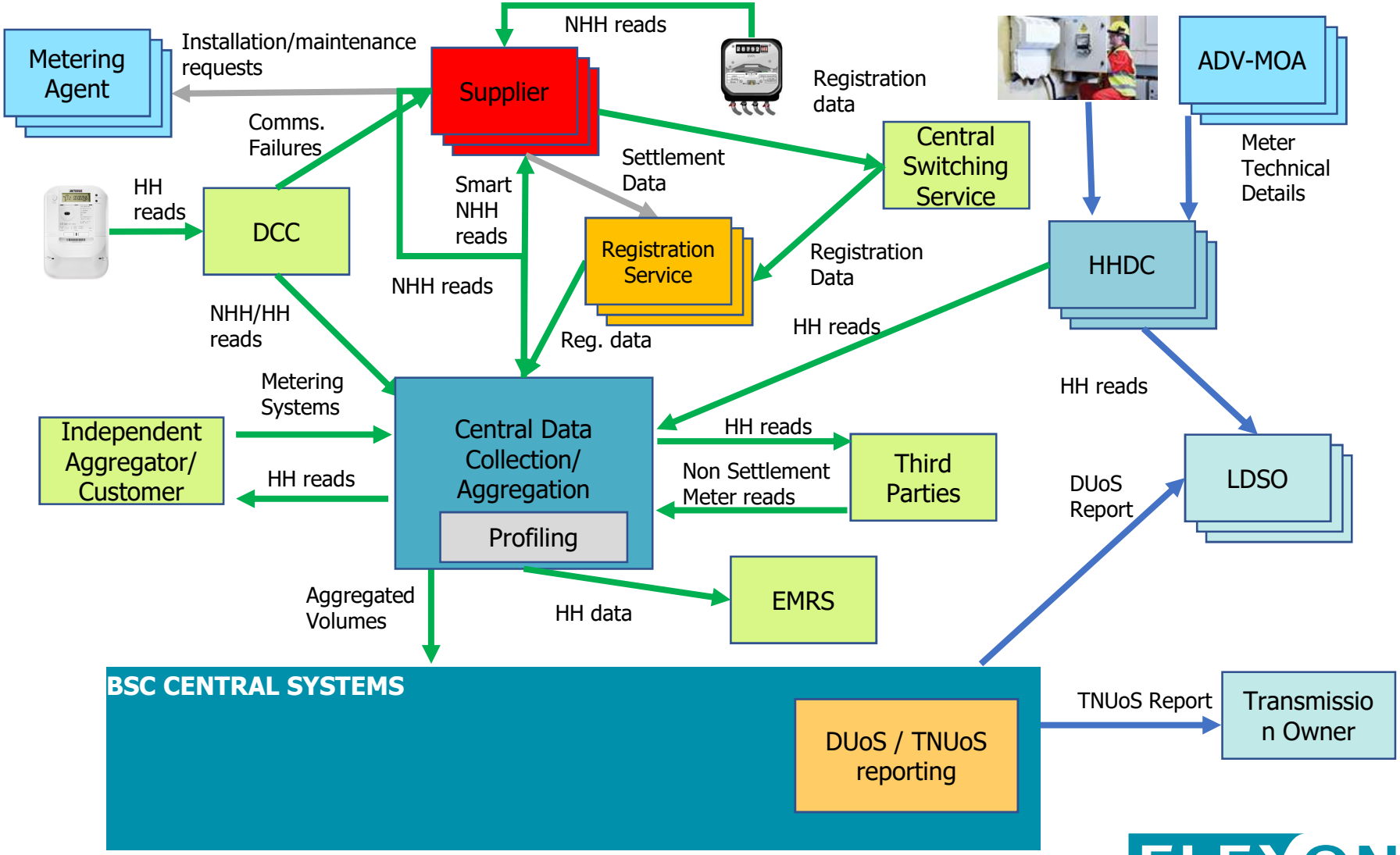
Counterfactual: The current Settlement Process



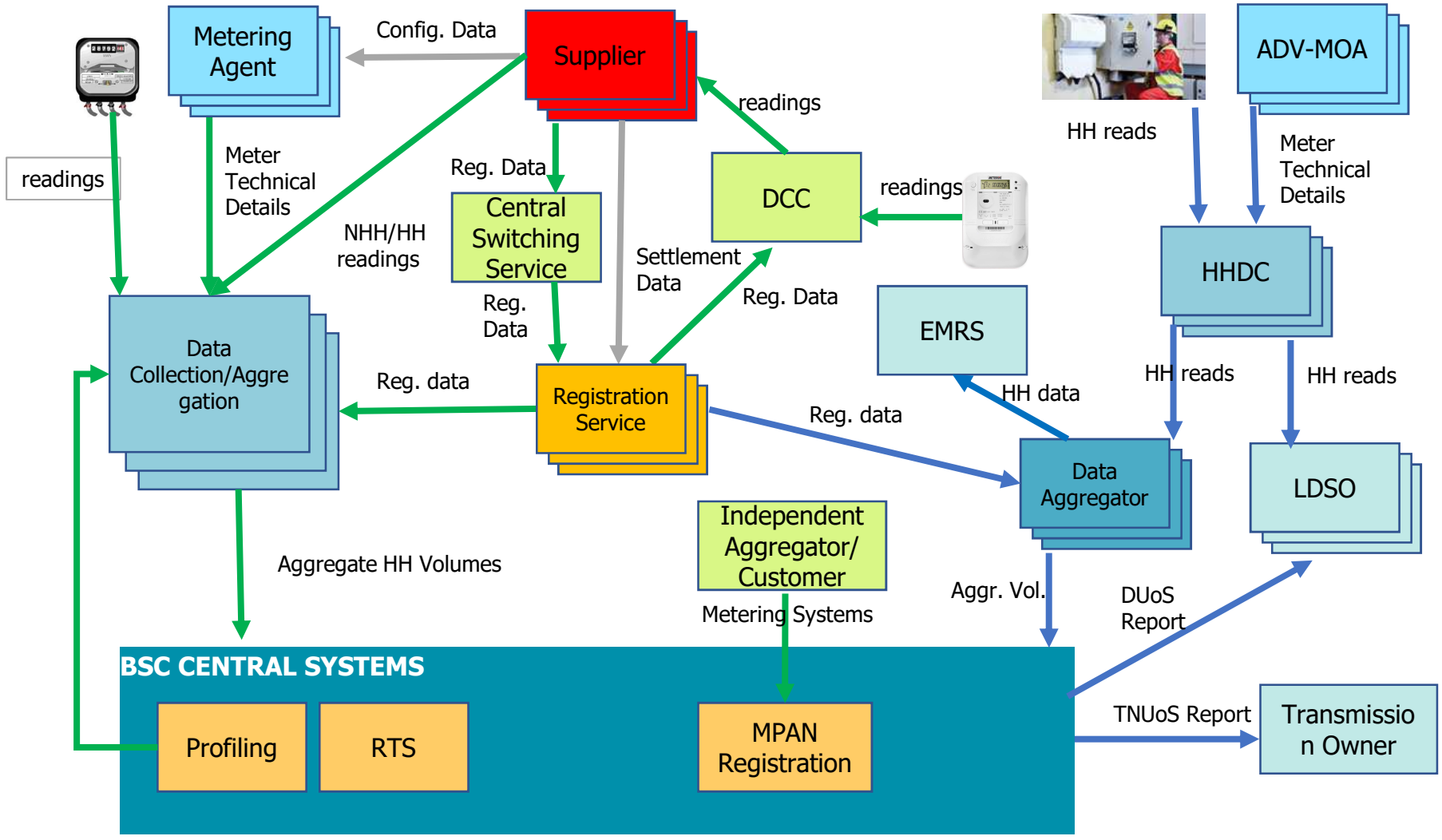
(1) HHS Plus: Supplier Hub basis



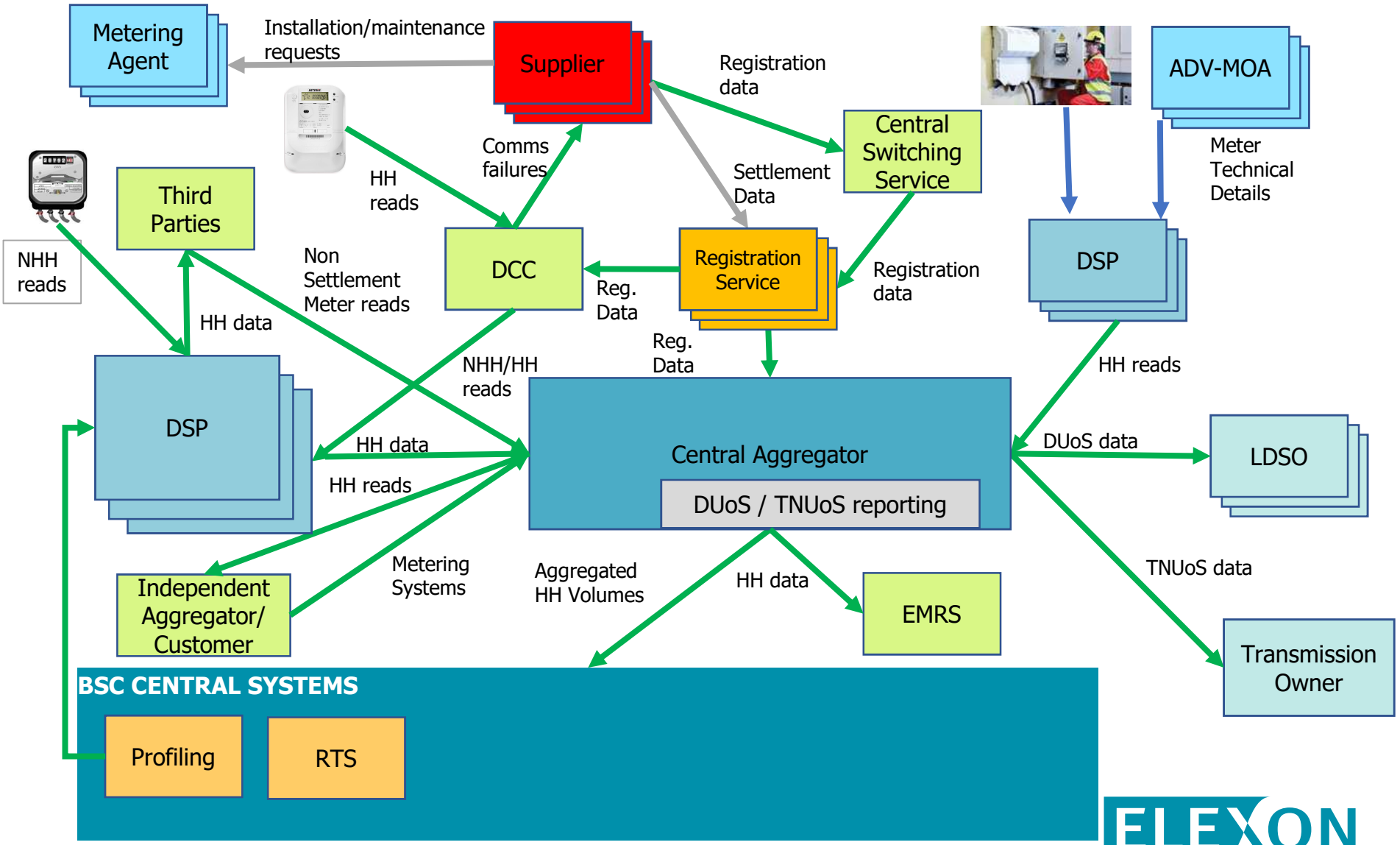
(4) Central Agent(s)



(2) Smart Agent: NHH Plus with combined NHH/HH



(3) Smart Agent and Centralised DA



Next steps

Information

DWG next steps

- Advice/guidance from DAB
  - Right direction
  - Timeline
  - Other considerations

- DWG meeting 15 November
  - Key Assumptions
  - Market segments and use case workshop
  - Draft TOM revisions
- Potential DWG meeting 13 December
- Updates to BSC Panel, SEC, MEC in December